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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,339	03/29/2001	William M. Everett	1723-6627	8817
22849	7590	10/20/2004	EXAMINER	
SCOTT W HEWETT 400 WEST THIRD STREET #223 SANTA ROSA, CA 95401			TANG, KAREN C	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

UK

<b>Office Action Summary</b>	<b>Application No.</b> 09/823,339	<b>Applicant(s)</b> EVERETT ET AL.	
	<b>Examiner</b> Karen C Tang	<b>Art Unit</b> 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
    a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim objection***

Referring to Claim 12, it is not clear in the light of the spec regards to the definition of the word "overhead".

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

I. Claims 1-3, 6, 8, 9, 13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Bass et al. hereinafter Bass (US 6,052,375).

1. Referring to Claim 1 and 8 Bass discloses:

a first input configured to provide a first plurality of ATM cells at a first ingress rate refer to Col 1, Lines 35-67, Col 2, Lines 5-20.

a first input buffer refer to Fig 2 and Col 4, Line 1 – 8.

a second input configured to provide a second plurality of ATM cells at a second ingress rate refer to Fig 9, and Col 4, Line 1-45. (Examiner interprets the second rate as one of the three priorities; every priority rate is different from others)

a second input buffer refer to Fig 2, and Col 4, Line 1-8.

an output buffer configured to queue ATM cells for transmission on a physical network interface at an egress rate refer to Fig 2, and Col 5, Line 1 – 65 and Col 2, Lines 5-15.

a programmable timer programmed to generate a cell tick period according to the egress rate (Examiner interprets the rate of traffic scheduling as the rate of the egress rate) refer to Col 2, Line 54 – 65 and Col 3, Line 1 – 20, Col 4, Lines 1-30 and Col 5, Lines 10-20 and Col 6, Lines 15-30.

an arbiter controlled by the programmable timer, the programmable timer enabling the arbiter to read a cell from either the first input buffer or the second input buffer to the output buffer each cell tick period refer to Col 3, Line 48-62.

2. Referring to Claim 2, Bass discloses that wherein the egress rate is at least twenty times greater than the first ingress rate refer to Col 8, Line 45 - 65.

3. Referring to Claim 3, Bass discloses that wherein the egress rate is at least two hundred times greater than the first ingress rate refer to Col 8, Line 45-65.

Art Unit: 2662

4. Referring to Claim 6, Bass discloses wherein the arbiter is configured to read a first ATM cell in the first input buffer before reading a second ATM cell from the second input buffer refer to Col 8, Line 1-20.

5. Referring to Claims 9 and 15, Bass discloses:

providing an egress rate of the ATM integrated access device to a processor refer to Col 4, Line 45- 55;

calculating a cell read period according to the egress rate refer to Col 4, Line 60-65;

programming a programmable timer with the cell read period, the programmable timer enabling a read of an ATM cell from an input buffer to an output buffer each cell read period refer to Col 45 – 65.

6. Referring to Claim 13, Bass discloses:

if a high-priority cell is present, reading the high-priority cell to an output buffer, and if a high-priority cell is not present, then checking a lower-priority input buffer and, if a lower-priority cell is present, reading the lower-priority cell refer to Col 8, Line 1 - 20.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 4, 5, 7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass et al. hereinafter Bass (US 6,052,375) in view of "Data Communications, Computer Network and Open Systems" by Halsall.

1. Referring to Claims 4 and 5, Bass discloses that egress rate is at least twenty times greater than the first ingress rate refer to Col 8, Line 45 – 65.

Bass does not expressly disclose that wherein the egress rate is no more than 1.1 times the second ingress rate.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to keep the egress and ingress rate close by each other the suggestion and motivation for doing so would have been Bass does not expressly indicate the exact rates for egress and ingress. The benefit of designing the egress rate so close to the second ingress rate would be to prevent end of the flow and not waste necessary resources.

2. Referring to Claim 7, Bass discloses there is plurality of ATM cells refer to Col 1, Lines 35-67. Examiner interprets the ATM cells as the data that transfer in Bass.

Bass does not expressly disclose wherein the first plurality of ATM cells are provided by a segmentation and reassembly unit operating according to ATM adaptation layer 1 protocol.

Halsall discloses wherein the first plurality of ATM cells are provided by a segmentation and reassembly unit operating according to ATM adaptation layer 1 protocol refer to Page 586, Paragraph 2-4.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine Bass and Halsall idea. The suggestion/motivation for doing so would have been Bass mentioned transfer information from source to destination node however Bass does not expressly mention to use the Segmentation and Reassembly unit, yet it is necessary to put data into cells in order to transfer data, and in order to transfer information from the source to destination in the ATM environment, ATM cells are provided by a segmentation and reassembly (SAR) unit operating according to ATM adaptation layer 1 protocol, which is a standard protocol.

3. Referring to Claim 10, Bass discloses wherein the: calculating step includes determining a cell egress rate (Examiner interprets the cell egress rate as the rate which occupied the bandwidth) refer to Col 8, Lines 35-67, and Col 9, Lines 1-10.

Bass does not expressly disclose rounding the cell egress rate down to a next lowest integer cell egress rate and taking the inverse of the next lowest integer cell egress rate to calculate the cell tick period.

At the time the invention was made, it would have been obvious to one of ordinary skill to round the cell egress rate down to the next lowest integer Bass mentioned that there is a predetermine rate for the input data such as the audio-video data rate, Bass also mentioned in the art that there is a cell tick period. The suggestion/motivation for doing so would have been that one ordinary skill in the art would know that the reasonable method to calculate the data rate would

Art Unit: 2662

be round down the data if it is between a high and a low rates. It is also obvious knowing to take the inverse of the rate would provide the cell tick period.

4. Referring to Claim 11, Bass discloses wherein the determining step determines the cell egress rate according to a physical network interface cell rate refer to Col 8, Line 35-65.

III. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass et al. hereinafter Bass (US 6,052,375) in view of Pasternak et al. hereinafter Pasternak (US 6760305).

1. Referring to Claim 14, Bass discloses determining the lower-priority cell, and if the lower priority cell, then discarding the lower-priority cell refer to Col 4, Line 33 – 45.

Bass does not expressly state the cell is an idle cell.

Pasternak discloses that ATM comprises an idle cell refer to Col 3, Lines 30-40.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Bass and Pasternak idea. The suggestion and motivation for it is Bass mention the system is in the ATM environment, and yet in the standard ATM environment, the system uses idle cells if no data is ready and slot comes up for processing. The benefit brings that the idle cell can be replaced by a valid cell and utilize transmission channel more effectively.

2. Referring to Claim 12, Bass discloses a cell tick period refer to Fig 9 and Col 4, Line 8-31.

Bass does not expressly disclose an overhead period.



Art Unit: 2662

Pasternak discloses there is an overhead period refers to Col 10, Lines 45-60.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Bass and Pasternak idea. The suggestion and motivation for it is that in Bass mentioned the methods are implemented in ATM environment, and it is a known fact that in every system, there is a requirement to reserve an overhead period so that the system can perform background work. The benefit brings that both the forward processing (the cell processing) and background processing (house keeping/maintenance) can be accommodated.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 6,731,644 (Epps et al. discloses a flexible DMA engine for packet header modification)
- US 6,483,839 (Gemar et al discloses an apparatus and method for scheduling multiple and simultaneous traffic in guaranteed frame rate in ATM communication system)
- US 6,414,963 (Gemar discloses an apparatus and method for proving multiple and simultaneous quality of service connects in a tunnel mode.)


Art Unit: 2662

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen C Tang whose telephone number is (571)272-3116. The examiner can normally be reached on M-F 7 - 3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KT

  
**JOHN PEZZLO**  
**PRIMARY EXAMINER**